

July 2015

Montgomery County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

A total of 17 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Montgomery County economy.¹ These 17 sectors have a total direct output of approximately \$525 million and support 1,259.3 jobs in Montgomery County. Running the model for all 17 sectors simultaneously produces the following results:

Agriculture Contribution in Montgomery County

Impact Type ²	Employment	% of Total Employment	Total Value Added ³	% of Gross Regional Product ⁴	Output ⁵	% of Gross Regional Product
Direct Effect	1,259.3	6%	\$153,490,032	8%	\$525,314,139	27%
Indirect Effect	350.3	2%	\$39,503,044	2%	\$107,513,695	6%
Induced Effect	313.9	1%	\$20,237,116	1%	\$36,309,631	2%
Total Effect	1,923.5	9%	\$213,230,193	11%	\$669,137,464	35%

As shown in the above table, agriculture, food, and food processing supports 1,923.5 jobs, or 9% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$669 million, roughly 35% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 17 agriculture, food, and food processing sectors is approximately \$213 million, or 11% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 11% of the total economy.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:
https://implan.com/index.php?option=com_content&view=category&id=19

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value Added = Labor Income + Indirect Business Taxes + Other Property Type Income

⁴ GRP = Final Demand of Households + Governments Expenditures + Capital + Exports - Imports - Institutional Sales

⁵ Output = Intermediate Inputs + Value Added

In the top ten by employment, Animal production, except cattle and poultry and eggs is the top employer in the agriculture industry with 268.8 employees. This table also shows the amount of jobs that are created by the agriculture industry in Montgomery County.

Top 10 Industries Affected by Employment

Sector Description:	Total Employment	Total Output
Animal production, except cattle and poultry and eggs.....	268.8	\$21,015,064
Dairy cattle and milk production.....	210.9	\$30,302,535
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	205.9	\$41,166,007
Nitrogenous fertilizer manufacturing.....	136.1	\$261,219,319
Grain farming	111.7	\$30,188,491
All other crop farming.....	104.3	\$10,214,057
Farm machinery and equipment manufacturing.....	65.8	\$42,283,588
Wholesale trade.....	58.1	\$11,494,961
Landscape and horticultural services	40.4	\$2,836,513
Flour milling.....	36.9	\$60,322,932

The Nitrogenous fertilizer manufacturing industry directly contributes approximately \$261 million to Montgomery County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Top 10 Industries Affected by Output

Sector Description:	Total Employment	Total Output
Nitrogenous fertilizer manufacturing	136.1	\$261,219,319
Flour milling.....	36.9	\$60,322,932
Petroleum refineries	5.3	\$54,082,376
Farm machinery and equipment manufacturing.....	65.8	\$42,283,588
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	205.9	\$41,166,007
Dairy cattle and milk production.....	210.9	\$30,302,535
Grain farming	111.7	\$30,188,491
Animal production, except cattle and poultry and eggs.....	268.8	\$21,015,064
Oilseed farming.....	11.2	\$18,772,204
Wholesale trade.....	58.1	\$11,494,961

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Montgomery County's economy.

[illegible]

All 105 counties in Kansas have IMPLAN models with an agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.